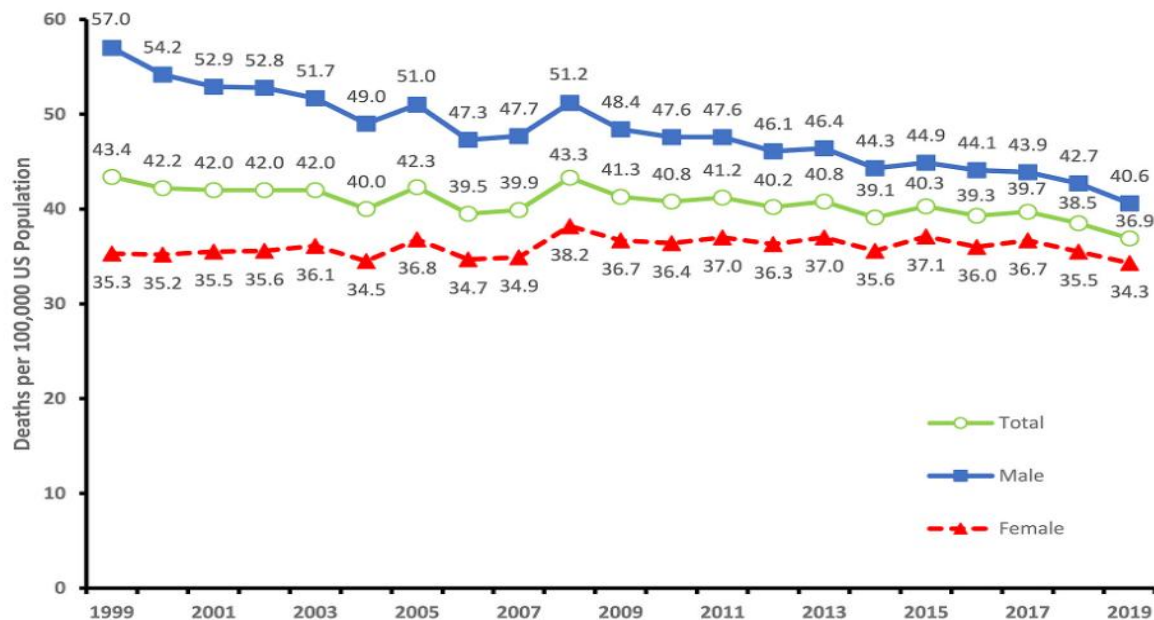


ΧΡΟΝΙΑ ΑΠΟΦΡΑΚΤΙΚΗ ΠΝΕΥΜΟΝΟΠΑΘΕΙΑ

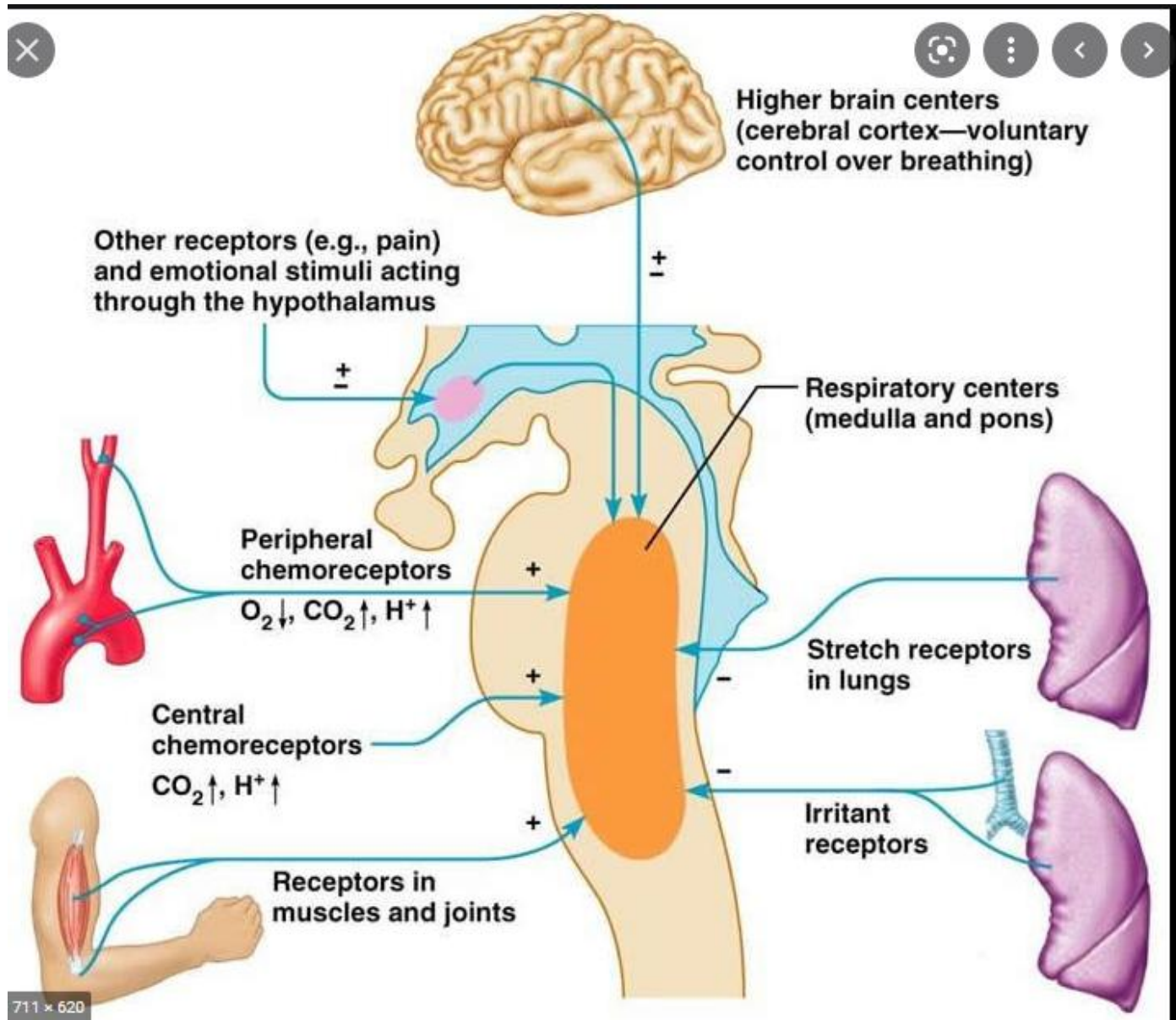
**ΚΑΤΕΡΙΝΑ ΒΛΑΜΗ
ΠΝΕΥΜΟΝΟΛΟΓΟΣ**

- Chronic Obstructive Pulmonary Disease (COPD) is the third leading cause of death worldwide, causing 3.23 million deaths in 2019 [1].
- Over 80% of these deaths occurred in low- and middle-income countries (LMIC).
- COPD causes persistent and progressive respiratory symptoms, including difficulty in breathing, cough and/or phlegm production.
- COPD results from long-term exposure to harmful gases and particles combined with individual factors, including events which influence lung growth in childhood and genetics.
- Environmental exposure to tobacco smoke, indoor air pollution, and occupational dusts, fumes, and chemicals are important risk factors for COPD.
- Early diagnosis and treatment, including smoking cessation support, is needed to slow the progression of symptoms and reduce flare-ups.

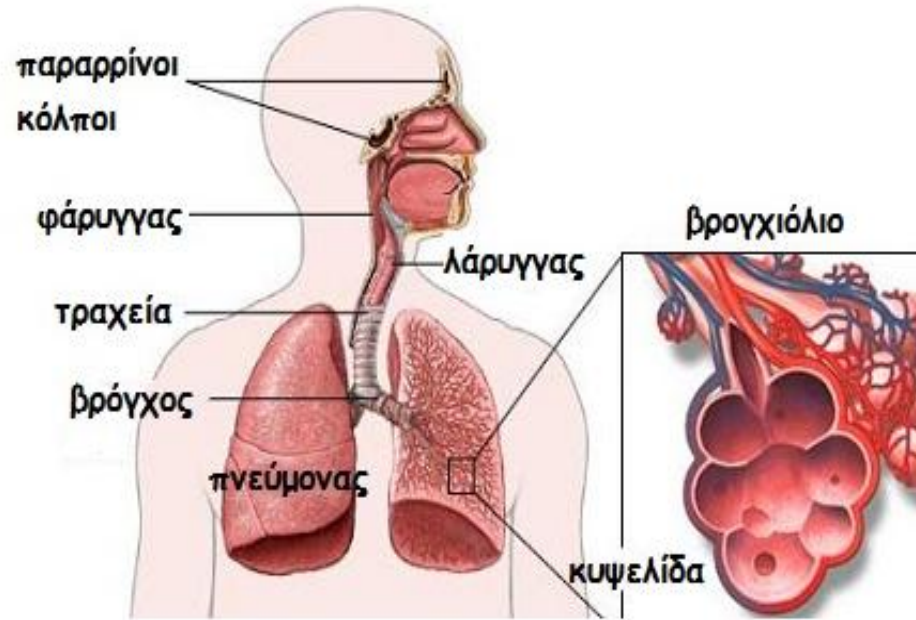
Age-Standardized Death Rates for Chronic Obstructive Pulmonary Disease (COPD)—United States, 1999–2019



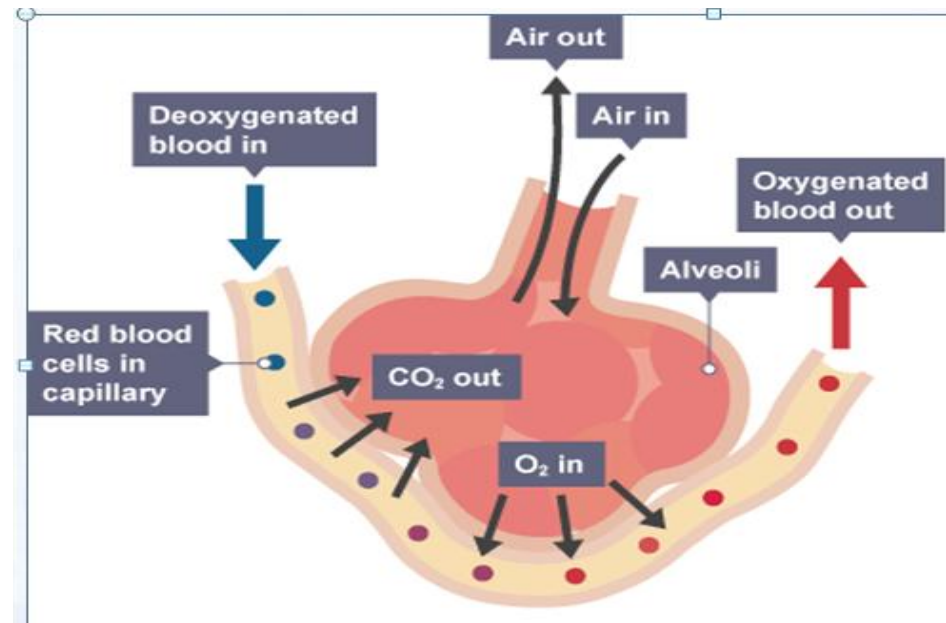
ΑΝΑΠΝΕΥΣΤΙΚΟ ΣΥΣΤΗΜΑ



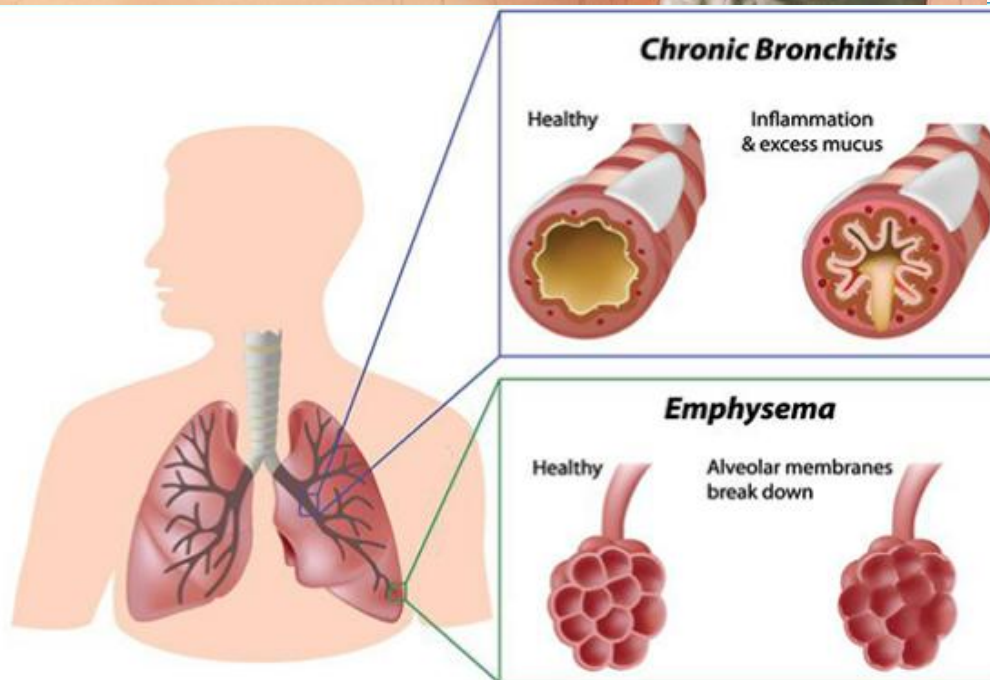
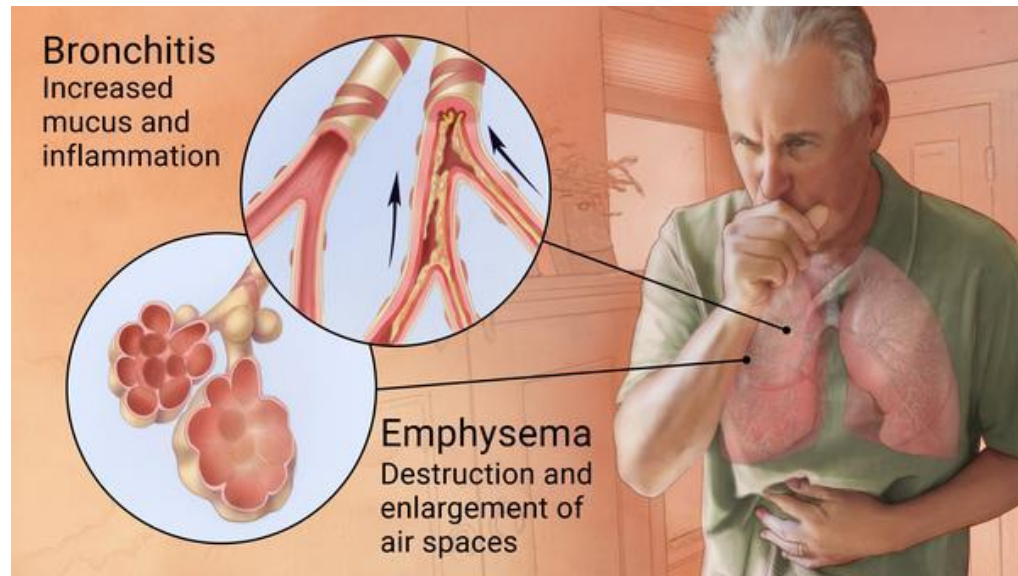
ΑΝΑΠΝΕΥΣΤΙΚΟ ΣΥΣΤΗΜΑ



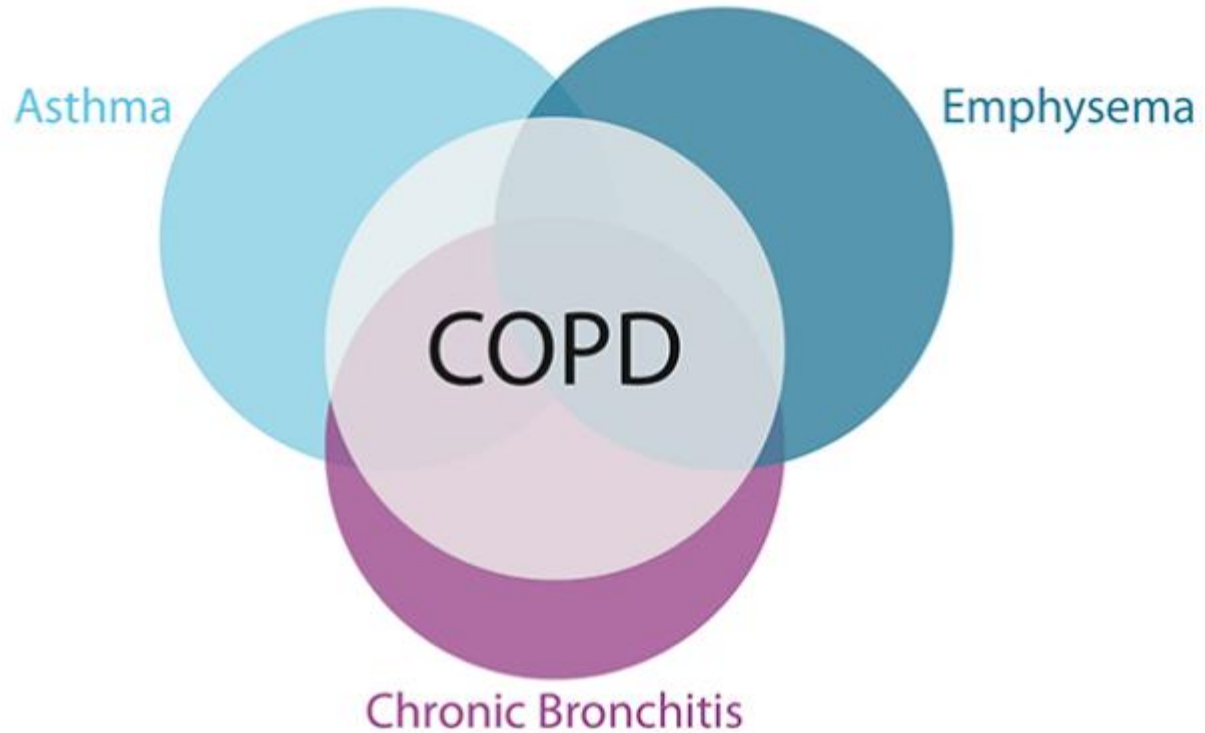
- Airways deliver oxygen (O_2 in)
- Alveoli off load CO_2 so you can breath off the CO_2 (CO_2 out)



ΧΡΟΝΙΑ ΑΠΟΦΡΑΚΤΙΚΗ ΠΝΕΥΜΟΝΟΠΑΘΕΙΑ

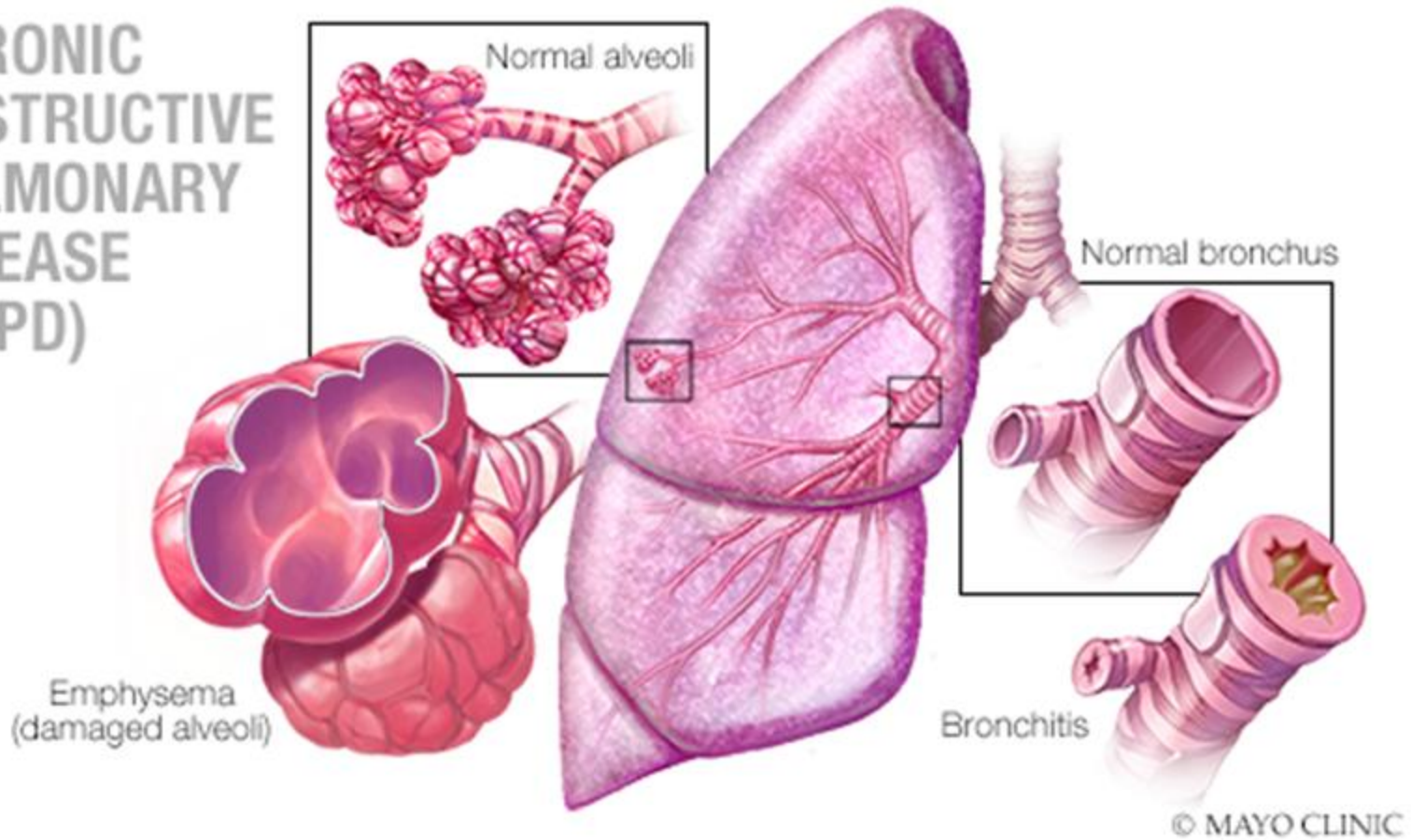


ΑΠΟΦΡΑΚΤΙΚΑ ΝΟΣΗΜΑΤΑ ΑΕΡΑΓΩΓΩΝ



ΧΡΟΝΙΑ ΑΠΟΦΡΑΚΤΙΚΗ ΠΝΕΥΜΟΝΟΠΑΘΕΙΑ

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)



Risk of Developing COPD

1. Tobacco smoke
2. Indoor air pollution (particularly women in developing countries)
3. Occupational Exposures (organic and inorganic dusts and chemicals)
4. Outdoor air pollution (small effect)
5. Genetic factors (alpha-1 antitrypsin)
6. Aging and Female Sex
7. Lung Growth and development (low birth weight, respiratory infections)
8. Socioeconomic status (poor socioeconomic status = high risk of COPD)
9. Chronic Bronchitis
10. Asthma
11. Infections (history of severe childhood respiratory infection)

Blue Bloater

Chronic Bronchitis



Symptoms

- Chronic , productive cough
- Purulent sputum
- Hemoptysis
- Mild dyspnea initially
- Cyanosis (due to hypoxemia)
- Peripheral edema (due to cor pulmonale)
- Crackles, wheezes
- Prolonged expiration
- Obese

Complications

- Secondary polycythemia vera due to hypoxemia
- Pulmonary hypertension due to reactive vasoconstriction from hypoxemia
- Cor pulmonale from chronic pulmonary hypertension

Pink Puffer

Emphysema



Symptoms

- Dyspnea
- Minimal cough
- Increased minute ventilation
- Pink skin, Pursed-lip breathing
- Accessory muscle use
- Cachexia
- Hyperinflation, barrel chest
- Decreased breath sounds
- Tachypnea

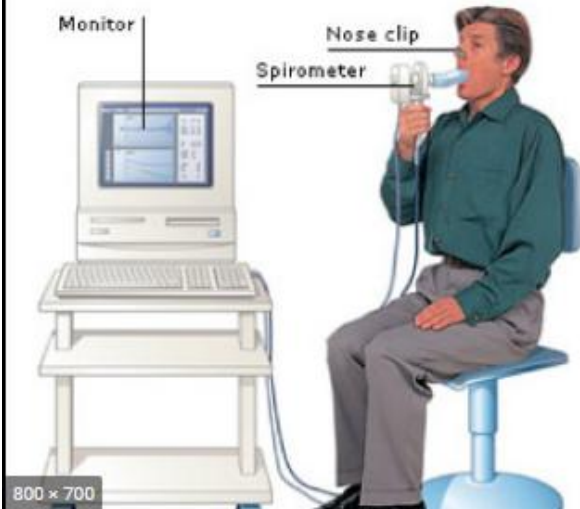
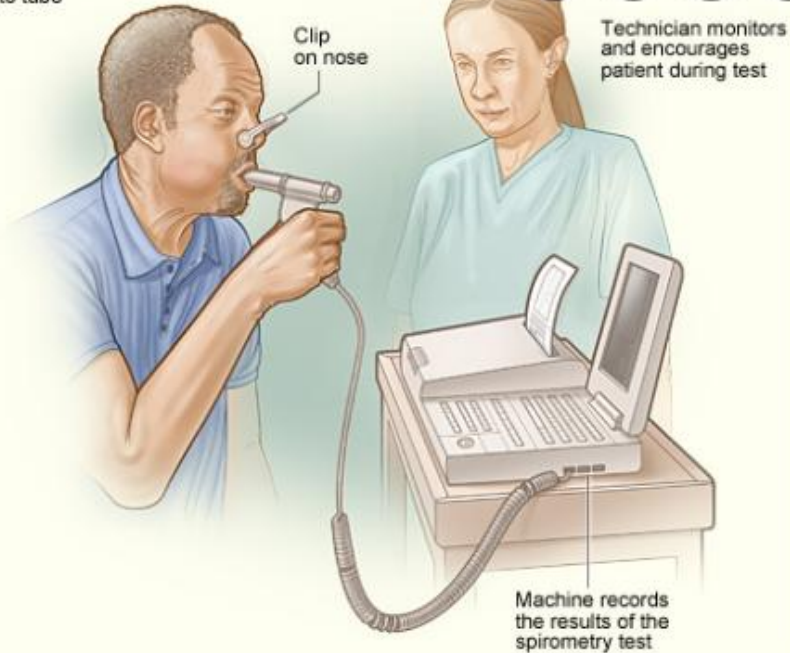
Complications

- Pneumothorax due to bullae
- Weight loss due to work of breathing

ΣΠΙΡΟΜΕΤΡΗΣΗ



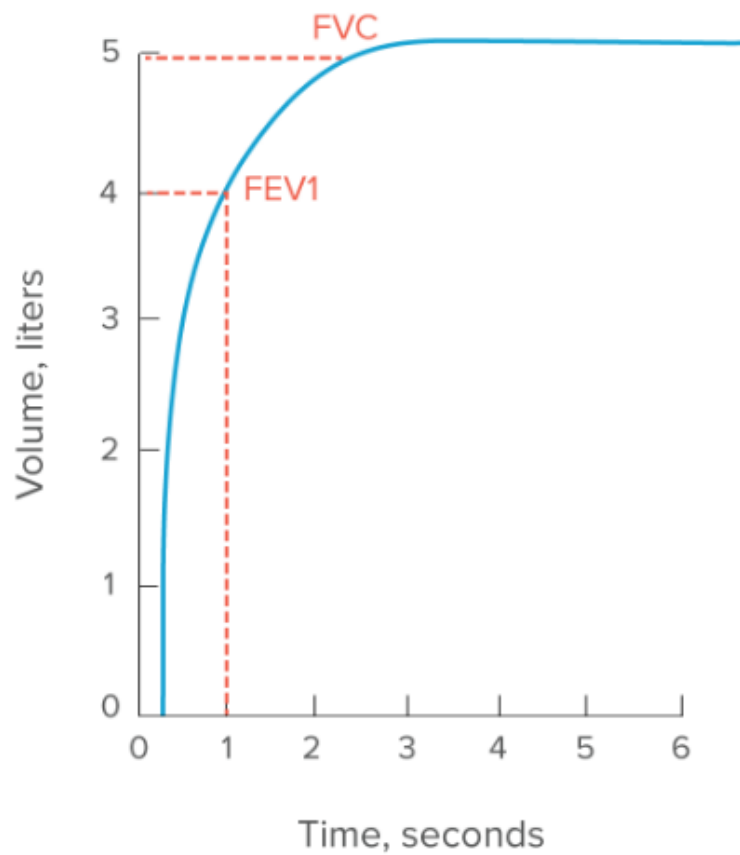
Patient takes a deep breath and blows as hard as possible into tube



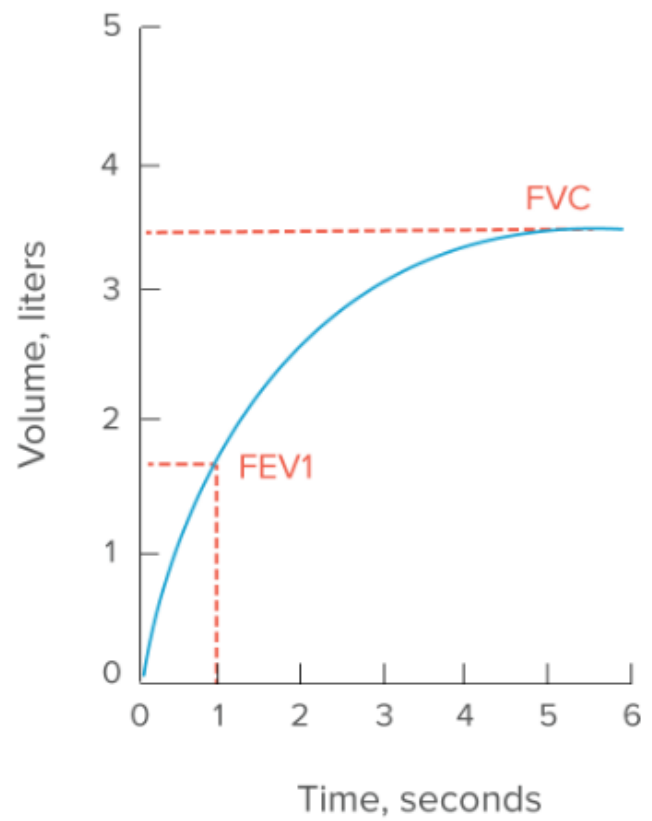
800 x 700



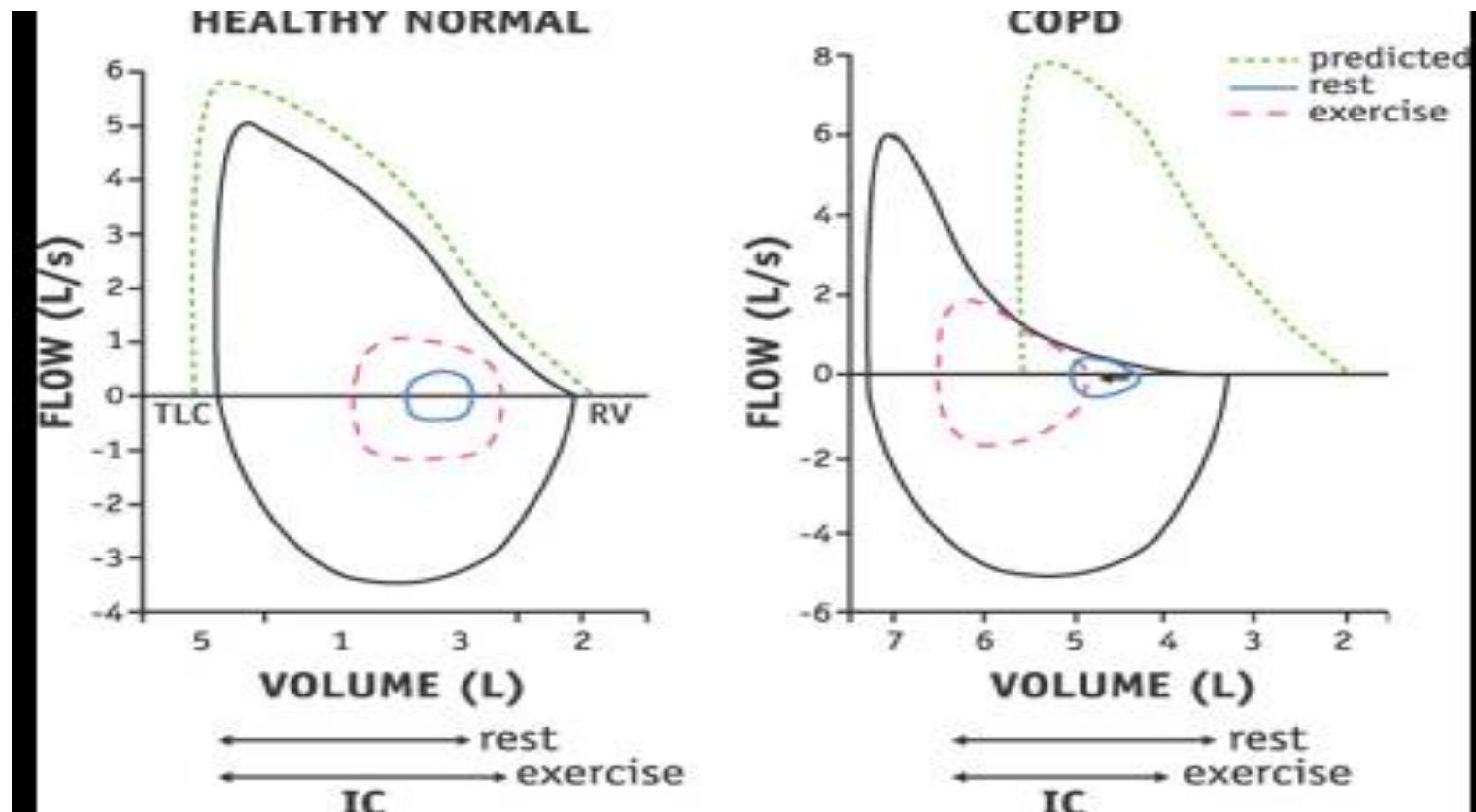
Healthy



Abnormal



ΣΠΙΡΟΜΕΤΡΗΣΗ



Percentage of predicted FEV1 value	Result
80% or greater	normal
70%–79%	mildly abnormal
60%–69%	moderately abnormal
50%–59%	moderate to severely abnormal
35%–49%	severely abnormal
less than 35%	very severely abnormal

ΠΝΕΥΜΟΝΙΚΟ ΕΜΦΥΣΗΜΑ



ΑΚΤΙΝΟΓΡΑΦΙΑ ΘΩΡΑΚΟΣ



ΑΞΟΝΙΚΗ ΘΩΡΑΚΟΣ

CLASSIFYING SYMPTOMS: MRC OR CAT

Modified MRC Dyspnea Scale

0	I only get breathless with strenuous exercise
1	I get short of breath when hurrying on the level or walking up a slight hill
2	I walk slower than people of the same age on the level because of breathlessness, or I have to stop for breath when walking on my own pace on the level
3	I stop for breath after walking about 100 meters or after a few minutes on the level
4	I am too breathless to leave the house or I am breathless when dressing or undressing

COPD Assessment Test (CAT)

For each item below, place a mark (X) in the box that best describes you currently. Be sure to only select one response for each question.

Example: I am very happy 0 1 2 3 4 5 I am very sad

I never cough 0 1 2 3 4 5 I cough all the time

I have no phlegm (mucus) in my chest at all 0 1 2 3 4 5 My chest is completely full of phlegm (mucus)

My chest does not feel tight at all 0 1 2 3 4 5 My chest feels very tight

When I walk up a hill or one flight of stairs I am not breathless 0 1 2 3 4 5 When I walk up a hill or one flight of stairs I am very breathless

I am not limited doing any activities at home 0 1 2 3 4 5 I am very limited doing activities at home

I am confident leaving my home despite my lung condition 0 1 2 3 4 5 I am not at all confident leaving my home because of my lung condition

I sleep soundly 0 1 2 3 4 5 I don't sleep soundly because of my lung condition

I have lots of energy 0 1 2 3 4 5 I have no energy at all

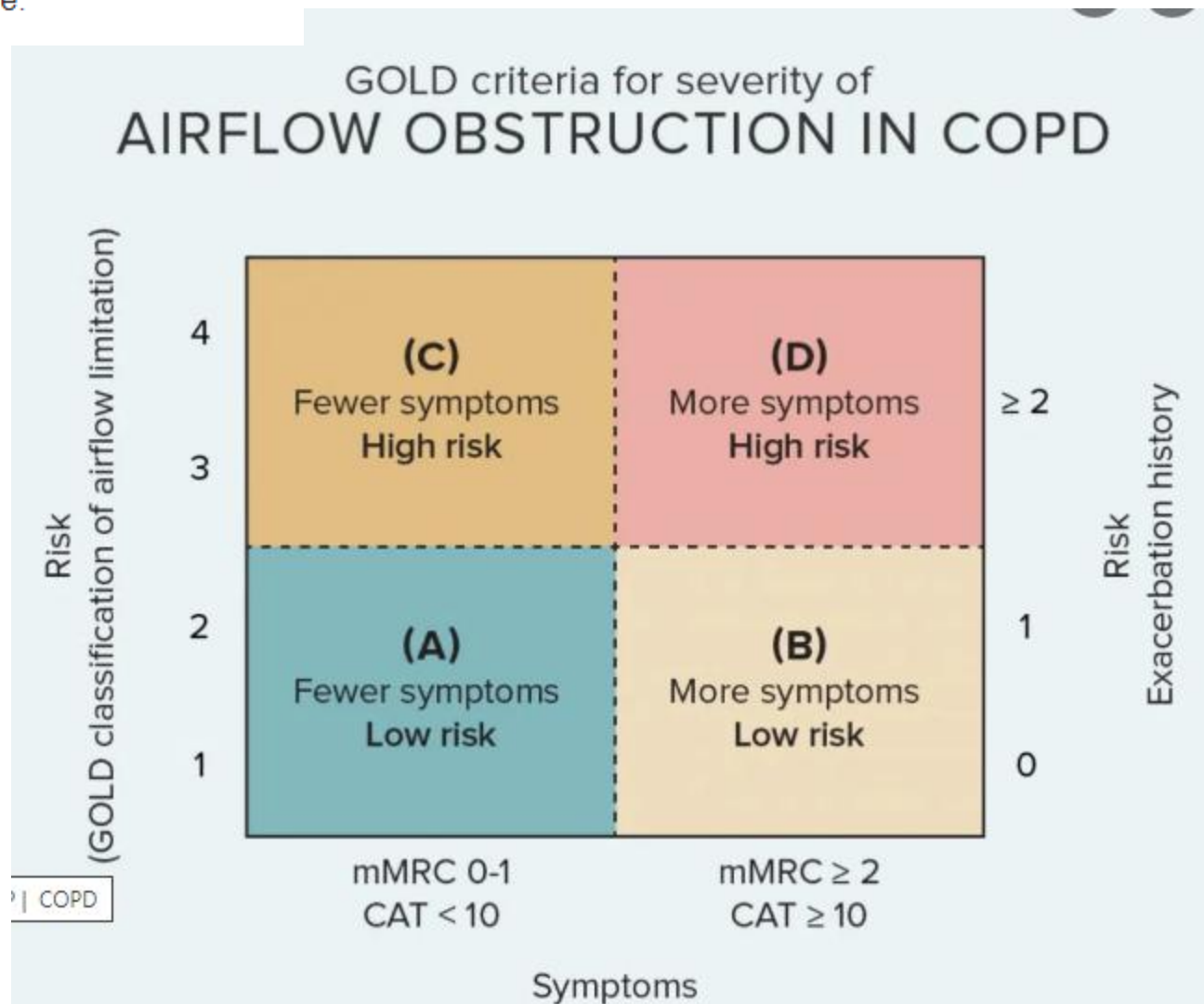
TOTAL
SCORE

Reference: Jones et al. (EU) 2009; 34 (2): 648-64



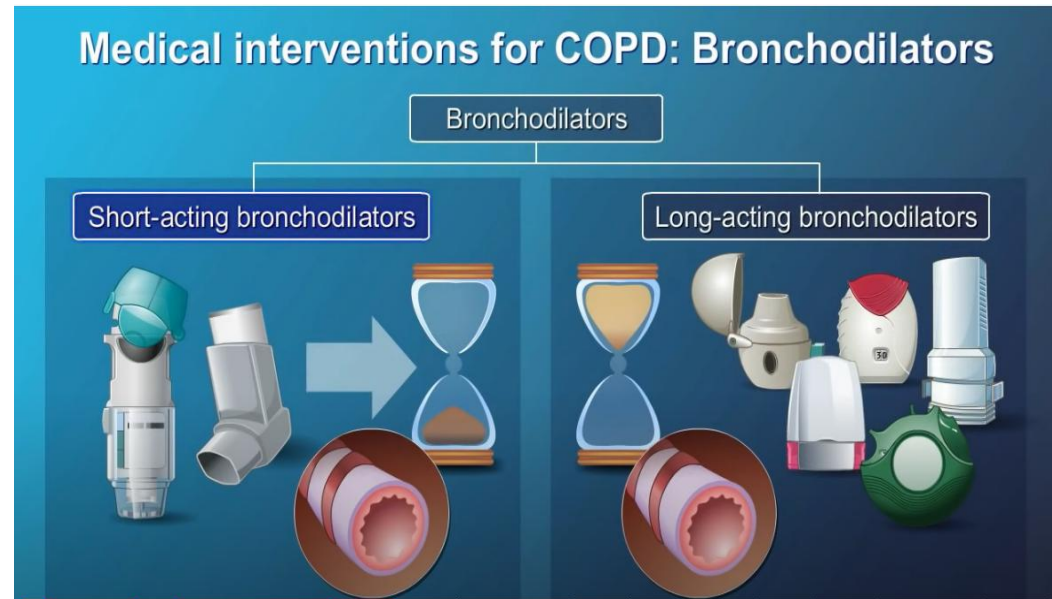
The Four GOLD Stages of COPD

- Stage I: Early.
- Stage II: Moderate.
- Stage III: Severe.
- Stage IV: Very severe.



ΘΕΡΑΠΕΙΑ ΧΡΟΝΙΑΣ ΑΠΟΦΡΑΛΤΙΚΗΣ ΠΝΕΥΜΟΝΟΠΑΘΕΙΑΣ

- ΔΙΑΚΟΠΗ ΚΑΠΝΙΣΜΑΤΟΣ
- ΕΙΣΠΝΕΟΜΕΝΑ ΒΡΟΓΧΟΔΙΑΣΤΑΛΤΙΚΑ (ΜΑΚΡΑΣ ΔΡΑΣΗΣ Β2 ΑΓΩΝΙΣΤΕΣ, ΑΝΤΙΧΟΛΙΝΕΡΓΙΚΑ, ΚΟΡΤΙΚΟΕΙΔΗ?)
- ΑΝΤΙΜΙΚΡΟΒΙΑΚΗ ΑΓΩΓΗ
- ΠΝΕΥΜΟΝΙΚΗ ΑΠΟΚΑΤΑΣΤΑΣΗ
- ΟΞΥΓΟΝΟΘΕΡΑΠΕΙΑ ΚΑΤ' ΟΙΚΟΝ
- ΜΗ ΕΠΕΜΒΑΤΙΚΟΣ ΜΗΧΑΝΙΚΟΣ ΑΕΡΙΣΜΟΣ
- ΧΕΙΡΟΥΡΓΙΚΗ ΑΝΤΙΜΕΤΩΠΙΣΗ (ΠΕΡΙΟΡΙΣΜΕΝΗ ΛΟΒΕΚΤΟΜΗ ΕΜΦΥΣΗΜΑΤΙΚΟΥ ΠΝΕΥΜΟΝΑ, ΜΕΤΑΜΟΣΧΕΥΣΗ ΠΝΕΥΜΟΝΑ, ΤΟΠΟΘΕΤΗΣΗ ΕΝΔΟΒΡΟΓΧΙΚΑ ΒΑΛΒΙΔΑΣ ΣΕ ΑΣΘΕΝΕΙΣ ΜΕ ΠΝΕΥΜΟΝΙΚΟ ΕΜΦΥΣΗΜΑ)



ΠΡΩΤΟΓΕΝΗΣ ΠΡΟΛΗΨΗ

- **Don't smoke!**
 - **Leading cause: Tobacco Smoking**
 - **Marijuana, Pipe, Cigar**
 - **Outdoor, occupational, indoor air pollution (biomass fuels-wood in poorly ventilated areas)**
- COPD is defined as preventable AND treatable
- Smoking harms nearly every organ in the body
- Smoking results in more than 440,000 premature deaths each year in the US*
 - Lung Cancer (128,922)
 - Heart Disease (126,005)
 - COPD (92,915)

Primary Prevention of Influenza and Pneumonia

Healthy People 2020

- 90% of patients in post acute and long term care will be immunized against pneumonia and influenza
 - INFLUENZA: High Dose Flu Vaccine four times as much antigen licensed specifically for adults 65 years and older
 - Number needed to vaccinate to keep ONE patient out of the hospital during flu season = 69
 - PNEUMOCOCCAL: adults 65 years and older need TWO
 - PCV 13: prefer to administer first (better immune response if administered first)
 - PPSV23: administer 1 year after PCV 13

ΔΕΥΤΕΡΟΓΕΝΗΣ ΠΡΟΛΗΨΗ



- *Secondary prevention:* aims to reduce the impact of a disease or injury that has already occurred....regular exams, screening tests, medications
- Early diagnosis and recognition is key
 - Tip of the iceberg phenomenon creating possible underdiagnosis and undertreatment

Η ΧΡΟΝΙΑ ΑΠΟΦΡΑΚΤΙΚΗ ΠΝΕΥΜΟΝΠΑΘΕΙΑ ΕΙΝΑΙ ΑΝΙΑΤΗ ΝΟΣΟΣ

Ο ΣΤΟΧΟΣ ΕΙΝΑΙ Η ΠΡΟΛΗΨΗ,

Η ΒΕΛΤΙΩΣΗ ΚΑΙ ΣΤΑΘΕΡΟΠΟΙΗΣΗ ΤΩΝ ΣΥΜΠΤΩΜΑΤΩΝ,

Η ΕΞΑΣΦΑΛΙΣΗ ΠΟΙΟΤΗΤΑΣ ΖΩΗΣ

ΑΠΟΦΥΓΗ ΤΩΝ ΕΠΙΠΛΟΚΩΝ ΜΑΚΡΟΠΡΟΘΕΣΜΑ

COPD is included in the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases (NCDs) and the United Nations 2030 Agenda for Sustainable Development.

WHO is taking action to extend diagnosis of and treatment for COPD in a number of ways.

The WHO Package of Essential Noncommunicable Disease Interventions (PEN) was developed to help improve NCD management in primary health care in low-resource settings. PEN includes protocols for the assessment, diagnosis and management of chronic respiratory diseases (asthma and chronic obstructive pulmonary disease), and modules on healthy lifestyle counselling, including tobacco cessation and self-care.

Rehabilitation 2030 is a new strategic approach to prioritize and strengthen rehabilitation services in health systems. Pulmonary rehabilitation for COPD is included in the Package of Interventions for Rehabilitation, currently under development as part of this WHO initiative.

Reducing tobacco smoke exposure is important for both primary prevention of COPD and disease management. The Framework Convention on Tobacco Control is enabling progress in this area as are WHO initiatives such as MPOWER and mTobacco Cessation.

Further prevention activities include the WHO Clean Household Energy Solutions Toolkit (CHEST) to promote clean and safe interventions in the home and facilitate the design of policies that promote the adoption of clean household energy at local, programmatic, and national level.

The Global Alliance against Chronic Respiratory Diseases (GARD) contributes to WHO's work to prevent and control chronic respiratory diseases. GARD is a voluntary alliance of national and international organizations and agencies from many countries committed to the vision of a world where all people breathe freely.